

## Planning

**Ecology is nice but it doesn't do to mess up the works. Biologist and ecological consultant for the new airport project Daniel Waltz explains.**

St. Scholastique airport construction is zooming ahead.

Zoom, Zoom, ZOOM.

Unfortunately, a few things are being stepped on in the course of this march to achieve the jetport objective. The natural phenomena of the region is being twisted to suit the specifications and requirements of the project. The government, though, has now begun to backtrack a bit and is trying at least to patch together an ecological rationale for what's happening so that the technical people can continue, more or less unimpeded in their work.

Daniel Waltz, a biologist at Sir-George, is one of a group of scientists working as government consultants on the project. While Waltz concentrates on the vegetation side of the whole ecological question, other scientists are studying the animal, climatic and social aspects of the possible impact of the new airport.

Biologist Waltz looks on the St. Scholastique project as a beginning of a new approach to human planning: ecological considerations are beginning to nudge their way into planning priorities for the first time.

To that extent, Waltz looks on the project as having the potential for far-reaching significance in the global sense,

perhaps influencing planning in other parts of the world as well as planning in a total context.

Waltz maintains that the planning agencies are only beginning to catch on, though, and most are only paying lip service to the total planning concept. Planners, he says, are only prepared to listen to ecologists if their requirements don't require plan modifications.

In the following edited transcription, Professor Waltz details some of the problems he has encountered and expresses some of his fears.

Ecological planning for the St. Scholastique airport is completely out. We are only in the area to minimize ecological damage after the airport project has begun, rather than to plan a well-balanced ecological system.

This is a very important point. Ecologists can no longer remain in their ivory tower; now we have to go into battle. While I am happy that the government is coming to realize problems of pollution and ecology, their attitude is still one of being willing to pay for ecological studies but not being prepared to have these studies complicate projects already underway.

For many years the ecological sciences were not taken seriously except in

MINISTÈRE DES TERRES ET FORÊTS Service de la Photogrammétrie et de la Cartographie, Photo-carthothèque provinciale, Québec, 1:15,840



theory: certainly never in application. Now we are beginning to go in a new direction, though government can't change abruptly. They can't say, for example, "alright, we don't touch anything until we have complete knowledge of the ecology," both for political and economic expediency.

James Bay, for example: the project was planned a long time ago. The economic implications are likely to be very short-lived, so if the government doesn't build the actual dams now, the immediate economic benefits will not be there. So the government won't say, "let's stop and take a look at the ecology for two or three years".

The airport is first a political decision, then a technical one. After the political and technical problems have been studied, the government will look at the ecological situation. Hopefully this minimization action, if you want, will become more of a rebuilding action in the future.

In building the runways at the new airport, plans are underway to excavate certain parts of the airport area. On the Rivière du Nord near the site of the new airport, we have plans for ecological management of the area. But have you a budget for that? they ask. "No."

So after that, they ask the requirements of the contractor. He says we just need to build a slope or plane it down or whatever with a bulldozer replacing the fine sand with very poor topsoil, taking the vegetation about 100 years to grow back. The ecosystem is extremely sensitive in this area.

Just to accept the supersonic jet, we have to disturb the ecology of a recreational

area for the Montreal area. This is frustrating for scientists engaged in the program.

The government is doing something but always with this first criterion in mind: the airport comes first and is not to be interfered with. If you don't interfere with this priority, then it's all right. Otherwise the plan won't be modified.

The James Bay project is a different problem. Here the water basin will be completely changed. And much of the natural condition of the area will be changed and it's difficult, really impossible, to determine what the impact will be.

But it goes back to the same thing; it's very difficult to compare ecological and aesthetic factors with economic facts. It's impossible to compare human feeling with money. The exception is if you have a recreation area where you can say that so many people came to spend some time.

For example in the project, a very beautiful waterfall will be all but destroyed, but how can you go to people who think in purely economic terms to say this shouldn't be destroyed?

First, you have to consider the indigenous people. Equally important you have to consider the ecological factors. Look at what happened in British Columbia. One river was running on precambrian material and the water was very clear, containing a wide and interesting variety of fish. Another river, running on sedimentary soil with turbid water and uninteresting species of fish, was joined to the first, sending turbid water and predatory fish into the clear river. Nobody knew the speed of sedimentation and now it's discovered that sedimentation isn't





# Board of Governors



At the Board of Governors on January 13, 1972, the Principal reported that we have received \$690,000 capital budget for the 1971-72 academic year, about the same sum as last year. Every indication is that our capital budget will be on the same level in the foreseeable future. Dr. O'Brien also mentioned that University and Ministry of Education representatives met in December to discuss the formula the Ministry is developing for operating grants for 1972-73.

The University put forward certain suggestions. It is likely that the Ministry recommendations will go to the Council of Universities for its views in the near future, and there is a good chance the Ministry will meet its schedule for announcing next year's grants in February.

The Trustees have nominated Victor Lazarovici to represent the Day Students on the Board. He will sit until the end of the present academic year or until the mandate of the Trustees is relinquished, whichever occurs first.

The Board accepted with regret the resignation of Lionel Côté.

The minutes of the Operational Services Committee noted that the offices of the Conservatory of Cinematographic Art will move this week into H-109 (the former VIP Lounge.)

It was reported in these minutes that the minor fire which occurred in room H-980 on January 6th caused \$600 of damage to equipment and \$1,000 to the building. It was caused by a lighted cigarette being dropped into a desk drawer, apparently by accident.

Richard Firth raised the question of a liquor licence. There was no progress

to report on our application, and Mr. Firth emphasized the need for action.

The following report on the food services was issued:

At this time of the year, as in the past, the Food Services show a deficit mainly due to the high cost of food and to lower sales. In an attempt to reduce this deficit, standard menus are being prepared and smaller portions of desserts are being served. There is also a high pilferage factor - about \$40 per day for food and about \$1000 per year in stolen utensils.

One of the main problems of the cafeteria is that it has become the University social centre. At peak hours, it is not possible to seat every patron because of card players and persons who bring their own lunches. The problem could be alleviated by

(a) forbidding card playing during the peak periods and this would make about 100 seats available to cafeteria patrons; and

(b) install more card tables in the 6th floor mixed lounge and attempt to attract the card players to this area.

Once this is done, there should be sufficient seats for the cafeteria patrons during the peak hours. If there is then some excess seating capacity, we might consider ways of attracting patrons from selective groups as a community service, i.e. students from other institutions or government employees in the area. Help might be solicited from the student newspapers in stressing the importance of proper use of existing facilities.

It was felt that students expect the University to furnish cafeteria space and a place where students can eat their lunches

and have lounge facilities. By design, the 7th floor of the Hall Building was intended to do just this.

In an attempt to boost business, the Food Services Dept. has been negotiating with Loyola College to see how much food could be prepared in the Sir George kitchens for Loyola. Price revisions cannot be put into effect unless approved by the University Council on Student Life and by the Presidents of the 3 student societies.

A specific problem that exists and which could be tackled is the need to have six employees during the peak hours to carry trays from the tables and place them on the conveyor belt. This should be done by the individual students, as was originally intended - in this way, there could be a saving on labour.

Prof. McQueen suggested that the cafeteria should close and in order to obtain student support, the Food Services Dept. should negotiate with them on conditions for its re-opening.

Before tightening up the situation, the report of the task force on Rights and Responsibilities with regard to Rules and Regulations for Administrators (of which there is no enforcement mechanism at present) must be implemented by the Board of Governors. The Secretary was asked to request of the Vice Principal - Administration that the Report on the Rights and Responsibilities be presented to the Board of Governors as soon as possible.

These questions will be raised again at the next meeting of the Committee. Meanwhile, the Members recognised the importance of identifying these problems and of keeping them before the Committee.

## Graduate Awards

**LIDLAW FOUNDATION.** Advanced academic awards (towards doctorate in health & welfare). Deadline: Feb. 1.

**CAMBRIDGE UNIVERSITY.** The Canada scholarship at Cambridge. Deadline: Jan. 30.

**QUEBEC DEPARTMENT OF EDUCATION.** Services des bourses de perfectionnement (post-graduate scholarship). Deadline: Jan. 31.

**NATIONAL SCHOLARSHIP TRUST FUND.** Graphic communications scholarship (undergraduate level). Deadline: Jan. 31.

**INTERNATIONAL DEVELOPMENT RESEARCH CENTRE.** Graduate scholarships (Ph. D. research thesis). Deadline: Jan. 30.

**NATIONAL RESEARCH COUNCIL AND ATMOSPHERIC ENVIRONMENT SERVICE.** Post-graduate fellowships in meteorology and atmospheric sciences. Deadline: Jan. 31.

**CANADIAN ASSOCIATION OF UNIVERSITY TEACHERS.** J.H. Stewart Reid memorial fellowship. Deadline: Feb. 1.

**IMPERIAL OIL.** Graduate research fellowships. Deadline: Feb. 1.

**NATIONAL SCHOLARSHIP TRUST FUND.** Technical Assoc. of the Graphic Arts fellowship. Deadline: Feb. 1.

**RESOURCES FOR THE FUTURE.** Doctoral dissertation fellowships. Deadline: Feb. 1.

**ZONTA INTERNATIONAL.** Amelia Earhart fellowships for women, for graduate study in aero-space sciences. Deadline: Feb. 1.

**DUKE UNIVERSITY. CENTER FOR COMMONWEALTH STUDIES.** Graduate fellowships for Commonwealth students. Deadline: Feb. 1.

**UNIVERSITY OF PENNSYLVANIA S.S. Huebner Foundation** for insurance education. Deadline: Feb. 1.

**CAMBRIDGE U. ST. JOHN'S COLL.** The Norman Laski senior studentship (for male graduate for research only). Deadline: Feb. 1.

**DANIEL & FLORENCE GUGGENHEIM FELLOWSHIP** in space flight (tenable at Columbia U.) Deadline: Feb. 1.

**B.M.I. Awards** to student composers (undergraduate and graduate levels). Deadline: Feb. 15.

**ONTARIO DEPARTMENT OF UNIVERSITY AFFAIRS.** Graduate fellowship program. Deadline: Feb. 15.

**SAMUEL BRONFMAN FOUNDATION.** Seagram business faculty awards. Deadline: Feb. 15.

**CANADA-BRITAIN SCHOLARSHIP FOUNDATION.** Scholarship in the humanities. Deadline: Feb. 15.

## Faculty Awards

**LIDLAW FOUNDATION** Service sabbatical Awards (postdoctoral in health & welfare) research fellowships (for faculty for health & welfare research) Deadline: Feb. 1.

**QUEBEC DEPARTMENT OF EDUCATION.** Services des bourses de perfectionnement (postgraduate scholarship). Deadline: Jan. 31.

**UNIVERSITY OF PENNSYLVANIA. S.S. Huebner Foundation** for insurance education. Deadline: Feb. 1.

**IMPERIAL CHEMISTRY INDUSTRIES.** Post-graduate research fellowships (tenable at British universities) Deadline: U. of London - Jan. 31, others - Feb. 8.

**AMERICAN COLLEGE TESTING PROGRAM.** ACT postdoctoral summer research fellowships. Deadline: Jan. 21.

**WERNER-GREN FOUNDATION FOR ANTHROPOLOGICAL RESEARCH.** Grants-in-aid and postdoctoral fellowships. Deadline: Jan. 31.

**ACLS.** Grants for study of East European languages. Deadline: Feb. 1.

**PHI BETA KAPPA.** Mary Isabel Sibley fellowship in French lang., lit. for Ph. D. women. Deadline: Feb. 1.

**NATIONAL RESEARCH COUNCIL. UNITED KINGDOM ATOMIC ENERGY AUTHORITY.** Research group fellowships. Deadline: Feb. 1.

**ACLS.** Grants-in-aid. Deadline: Feb. 15.

**FOLGER SHAKESPEARE LIBRARY.** Fellowships. (For advanced scholars who need to use the resources of the Library to complete books and articles). Deadline: Feb. 15.

**ACLS.** Grants for summer research in linguistics. Deadline: Feb. 15.

**SMITHSONIAN ASTROPHYSICAL OBSERVATORY.** Visiting research associateships. Deadline: Feb. 15.

*More at H-440.*

## Student Services

**God Squad** - The God Squad is sponsoring another Ooze-a-weigh on January 28 to 30th. beginning at 7:00 p.m. on Friday, ending after lunch on Sunday. The purpose is to allow the SGWU community to get together to consider personal freedom in a changing society. The event is open to faculty, staff and students. The group size is limited so if you are interested phone 4551 or come up to H-643. The cost is \$10.

**World University Service of Canada** - Charles Dadoun, a third year student in the faculty of Arts, has been selected to represent the University at the World University Service international seminar to be held in Peru during the summer.

**Province of Quebec Post-Graduate Scholarships** - Students are reminded that the deadline for submitting applications is January 31st.

**Province of Quebec Loans and Bursaries** - Deadline for applying is January 31st, 1972. Students applying now will be eligible for up to \$700.00 in the form of a loan. No bursaries will be awarded.

**Legal Aid** - Mr. Ian Stalker will be available Tuesday evenings from 5:30 p.m. to 7:00 p.m. Students wishing to see Mr. Stalker should contact Mrs. Mary Glowacki at 879-5981.

**Co-curricular Fund** - The University Council on Student Life (UCSL) has recommended a co-curricular fund of \$10,000.00 for the remaining term of this academic year. The money derives principally from the service fees paid by students and a per capita grant from the provincial government.

Application for financial requests will be handled by the Co-Curricular Committee, composed of four persons - one student from each of the Student Associations, and one member from the Student Services staff.

The following specific criteria or guide lines have been established:

- 1- The fund was set up to stimulate new activities, by and for, students at Sir George.
- 2- A floor of \$500.00 has been set in order to encourage a number of projects which can be approved by the committee quickly. Requests for more than this amount will be forwarded to the UCSL.
- 3- Only student-initiated requests will be considered.
- 4- Expenditures for capital equipment or salary items will not be accepted.
- 5- Deadline for completion of projects - last day of classes.
- 6- All applicants to meet with committee, if required. Application forms available in room H-405 - Office of the Dean of Students.



**PART 1 - You may vote on fluoridation this year.  
In spite of the wretched condition of your teeth, consider these points.**

**PART 2 - Environmentalist Tony LeSauteur says  
he wants to swim in the St. Lawrence and tells how he'll do it.**

## The Beginner's *Survival kit*

### PART 1

#### She used to be on a fluoride kick

Carol Farkas used to give lectures in favor of fluoridation. That's not surprising since she's a clinical nutritionist and most medical and para-medical people favor fluoridation. But after reading a paper about fluoride levels in food and beverages about a year ago, she began to rethink. "I began to wonder if fluoridation could be an environmental problem," she explains. "After all, if we're worried about mercury in fish, shouldn't we at least stop and think about fluoride before we go blindly ahead?"

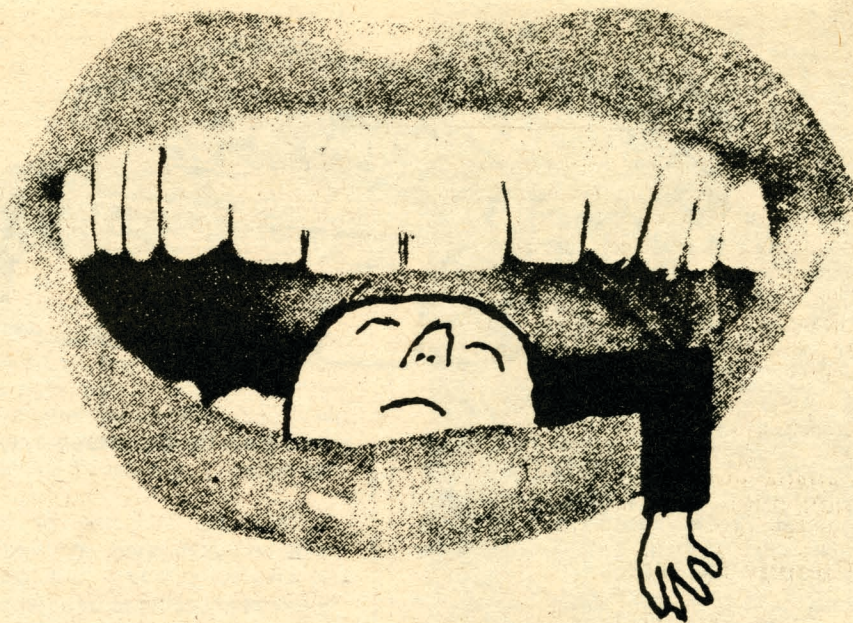
And as research chairman of STOP (Society to Overcome Pollution), that's what she did. A \$25,000 Opportunities for Youth grant last summer enabled twenty-two students to conduct research and lab tests resulting in STOP's impressively thorough position paper. Its careful emphasis on factual accuracy reflects Mrs. Farkas' belief that fluoridation should not be primarily a political issue, and that STOP should not launch a strong anti-fluoridation campaign. She sees it as a "scientific question and really just a minor part of the whole environmental situation".

For that reason, they're hoping that their position paper will be taken as a serious document when they send it to every member of the National Assembly as well as the Montreal Urban Community, as they plan to do in the near future. So far, reaction to the report has been varied. "We sent a copy to Castonguay as soon as it came out last summer, but we haven't heard a word, not even a letter to say he received it." But they have established a "good correspondence" with Victor Goldbloom

who, Mrs. Farkas believes, considers the report important. In fact she thinks fluoridation should be a matter for the environment rather than social affairs ministry.

What about the dentists? "I recently spoke to a meeting of the Montreal Dental Club and their reaction was not hostile," she says with a touch of surprise. "Many of them just simply never knew all the angles before," she explains. Still, a certain stubbornness characterizes the professionals, some of whom have written her nasty letters. To top it off, "I've had absolutely no support from my nutritionist colleagues. I've sent them the report followed up by letters asking for some response, but they've kept quiet," she muses.

Ironically, Carol Farkas lives in Pointe Claire, a city with fluoridated water. She allows herself one subjective remark to answer those who proclaim fluorida-



tion as both a dental and financial panacea: "My children eat well, they've had fluoridated water all their lives, and our dental bills are as high as anyone else's!"

#### The great debate

For years the fluoridation question has been political in nature. In Quebec Claude Castonguay insists he will fluoridate the water while Mayor Jean Drapeau has consistently stated that such a move would violate individual rights. Finally, as reported in the Montreal Star of January 5, the Montreal Urban Community's Niding has backed down, promising Montreal's cooperation should the fluoridation law be passed this year as planned.

But in the light of Castonguay's assurance of a provision for public referenda, whereby municipalities in which the majority vote against fluoridation will be exempt from the law, the scientific

findings of STOP (Society to Overcome Pollution) can be part of the voters' consideration, rather than just another report to plow through.

If the question were as simple as "Does fluoride help reduce cavities in children's teeth" STOP would be the first to answer "yes". But STOP's position paper, "Water Fluoridation: The Human Diet and the Environment", brings to light a range of questions that lack definite answers, many of them questions that no one has even bothered to ask before, particularly in Quebec, where only about 12 percent of the population drinks fluoridated water.

#### Safe fluoride intake?

The report first points out that to date, no one seems to agree on an established maximum safe daily intake of fluoride by adults or children. Estimates from various sources range from 1 to 5 milligrams daily. STOP's own estimate of an actual average daily intake (safe or otherwise) for Quebecers is from 4.59 to 9.4 milligrams for adults and 1.85 to 4.2 milligrams for children. And even though it is fairly clear that water with one part per million fluoride content will benefit the teeth of children up to age 12, the report asserts that "the health of the teeth, or lack of cavities in the mouth is not necessarily an indication of the safety of a chemical such as fluoride in the environment or upon the safety of the entire health of the individual".

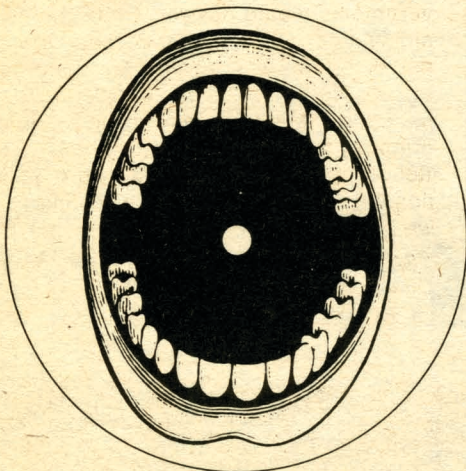
An important factor to be considered is other existing sources of fluoride, and in this area the report pulls a few surprises. First, concerning water itself, many public supplies contain fluoride naturally. The boiling of fluorida-

*Continued*



ted water increases the concentration of fluoride in the remainder. And food and beverage processing done in cities with fluoridated water means more fluoride in processed foods and beverages. In addition, industrial emission of fluorides and use of fluorides in fertilizers leads to STOP's modest speculation that "it would not be surprising to find that fluoride content in the food chain has increased markedly in the past two decades". To bring home that point the report cites some figures on Japanese vegetables showing fantastic increases, the most spectacular being in green tea. In 1958 the fluoride content was 88.75 parts per million, while by 1965 it had jumped to 559.50 parts per million.

Closer to home, the report contains charts indicating the amount of fluoride in beer and carbonated beverages



processed in various Canadian cities. Beer processed with fluoridated water has .68 ppm fluoride, without fluoridated water, .30 ppm. Carbonated beverages using fluoridated water contain .77 ppm and those using unfluoridated water, .02. Tea is naturally high in fluoride and one cup may contain .15 - .52 milligrams or more.

But perhaps the most remarkable source is mineral water, particularly that imported from France; Quebecers' consumption is fairly high. An 8 oz. glass of Vichy-Célestin contains 1.8 milligrams of fluoride. And even though the Canadian Food and Drug Act stipulates a maximum of 2 parts per million for bottled water, Vichy-Célestin contains from 4.5 to 6.5 parts per million.

Still another source of fluoride is drugs and vitamins. As the report suggests, "Giving a child a fluoride vitamin pill daily is giving the child 1 milligram of fluoride from the pill alone. Few people read the fine print on the vitamin pill labels".

## Toxic effects

What significance, and what possible toxic effects, does the intake of all this fluoride have? Apparently the experts do not agree. Some say that an excess of 1 milligram daily will make fluorosis (mottling or discolouration of the teeth) highly probable in children. Others see no effects until 2 to 5 milligrams. Beyond tooth mottling, other conditions resulting from excessive fluoride are crippling or skeletal fluorosis "characterized by gross changes in the skeleton and composition of the bone, and occurrence of bone deformities".

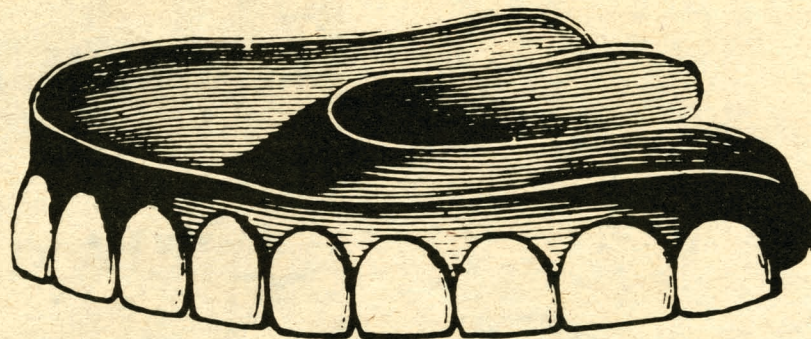
According to the report, "skeletal fluorosis may be completely asymptomatic in the early stages. Bone pains, particularly in the spine and joints, may be the first recognizable symptoms of

this disease". Dramatically high intake of fluoride leads to growth retardation, thyroid injury, kidney injury. It is noted that "adults above age 30 years appear to be prone to fluorosis bone changes whereas children seem to be less likely to suffer ill effects other than tooth mottling".

But it appears that the ill effects described above are more complex than just being a matter of fluoride. The American Dental Association insists that no adverse effects other than tooth mottling have been uncovered in the States. Yet STOP's report documents the fact that in other parts of the world "the relation between waterborne fluoride and dental/skeletal fluorosis differs markedly from that reported in North American studies."

Why the difference? The report suggests that the most important possible reason which should be further investigated is the connection between the ingestion of fluoride and the "concomitant ingestion of inorganic salts of calcium, magnesium and aluminum especially when in the presence of phosphate". It is thought that the presence of these other minerals promotes a higher rate of excretion of fluorides from the body rather than absorption. The implication is that when there are dietary deficiencies, as there are in many parts of the world, including Montreal, the fluoride absorption is more likely to be at a dangerous level. STOP is particularly interested in the interaction of calcium with fluoride. "In one study it was reported that fluoride added to milk in a concentration of 2 parts per million resulted in 45% less bone absorption of fluoride than when the same concentrate was added to distilled water.

This protective effect of the milk greatly decreased when the fluoride concentration was increased to 5 and 10 parts

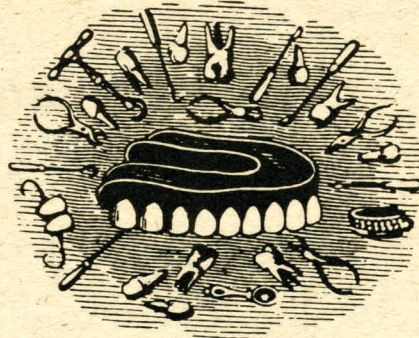


per million. Fluoride seems to be absorbed by the teeth by the same mechanism involved in the bone absorption of fluoride. Bones require that the fluoride be absorbed, however, from the digestive tract before being incorporated into the bony structures of the body. Teeth may absorb fluoride directly from food and beverages, such as water and tea. There is strong evidence to support the theory that direct absorption from dietary liquids is a dominant source of fluoride in tooth enamel."

## Possible answer

In the light of the strong evidence that a deficiency in calcium and other minerals may make added fluoride a dangerous proposition, and since recent studies indicate a calcium deficiency in Quebec schoolchildren, the report suggests that milk fluoridation might kill two birds with one stone. What is equally important to STOP is that were milk to be the agent of fluoride, man's food chain would not be involved. The amount of fluoride could be more easily controlled. Milk fluoridation is a practice in Switzerland, Austria and Japan. STOP's research

committee plans to investigate the cost of such a plan in the near future. Meanwhile, as the recommendations below show, they are concerned that further research into questions brought out in the report be undertaken before Quebec plunges ahead. Copies of the report can be obtained from the STOP office at 2052 St. Catherine West, for \$2.



## STOP's Recommendations

1. That the proposed fluoridation of Quebec water supplies be reconsidered.
2. That a survey be conducted to ascertain the amount of fluoride that the Quebec population is ingesting from all sources.
3. That the importation of Vichy waters be carefully checked to ascertain their fluoride content, and that Quebec mineral waters be constantly checked for fluoride content, along with processed foods and beverages.
4. That the public be made aware of the high levels of fluoride in tea, Vichy water and drugs, and that they be made aware of the presence of fluorides in beer, carbonated beverages, and other foods and beverages

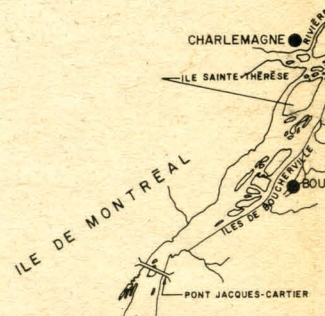
that may be processed with fluoridated water.

5. That the inclusion of fluoride in milk be established and that this milk be distributed free in schools and free to preschool children by local dairies.
6. That regular monitoring of fluoride in the atmosphere in Quebec be established.
7. That regular monitoring of fluoride in the drinking waters of Quebec be established.

# PART 2

## Notes

Swimming in the St. Lawrence? Easier done and less costly than building Expo '67 predicts Tony LeSauter, president of the Quebec Wildlife Federation. If the Quebec Environment Department official gets his way (and he usually does), 45 miles of shoreline and 110 islands from Jacques Cartier bridge to Sorel will be reclaimed as a recreational park



for camping, boating, fishing, hunting and ultimately swimming. All this, if all goes well, within five years, provided municipalities co-operate.

"Un fleuve, un parc" was conceived not only for conservation but from LeSauter's belief in the need for a retreat from the urban stress. The project began last summer when 26 students were employed under Opportunities for Youth to conduct a survey of the area which included fish and bird profiles, soil and vegetation characteristics, bacteriological tests and an opinion questionnaire.

Despite serious pollution and land destruction, their report concludes: "both the social needs and the natural features of the area recommend it for preservation as a public parkland."

The opinion survey found 88% of the shoreline residents favoured "un fleuve, un parc". More than half of these people earned less than \$8000 a year, and could not afford summer cottages.

However, all but 17 islands and a few shore miles were owned by private industry or individuals. Most of this land had been consigned to ruin by dump-and-fill operations and commercial development. The federation has called for a "freeze" on development, and LeSauter is determined to expropriate for "un fleuve, un parc".

LeSauter last year proposed that a survey be done of the shoreline of the downtown Montreal area to determine the feasibility of swimming. The project was not accepted by Opportunities for Youth. However he was confident that such a project would be approved this summer. He only needs students. Any professors and students interested in directing such a study should contact Mr. LeSauter at 873-4174.

-Don Worrall



Questions

What is the next step?

We have already drawn a map showing the extent and location of pollution from the coliform tests taken last summer. (Coliform is an indicator of the presence of animal waste.) The next thing is to survey the sanitary facilities and classify the beaches according to the source of contamination, municipal sewers, septic tanks or whatever. Then we contact the owners.

And then?

This winter we are going to do a preliminary territorial management plan based on the results from last summer. Depending on the ecology, the accessibility, and the people's need the islands will be reserved for sanctuaries, camp grounds, etc.

Next summer we will make a list of the names of the owners of the property involved. We will also have a student of economics evaluate the market value of

small charge on camping grounds, which is normal, but we don't want fancy marinas and things that are available only to a privileged few. This winter we will have sociologists asking what people want and working on plans to achieve this.

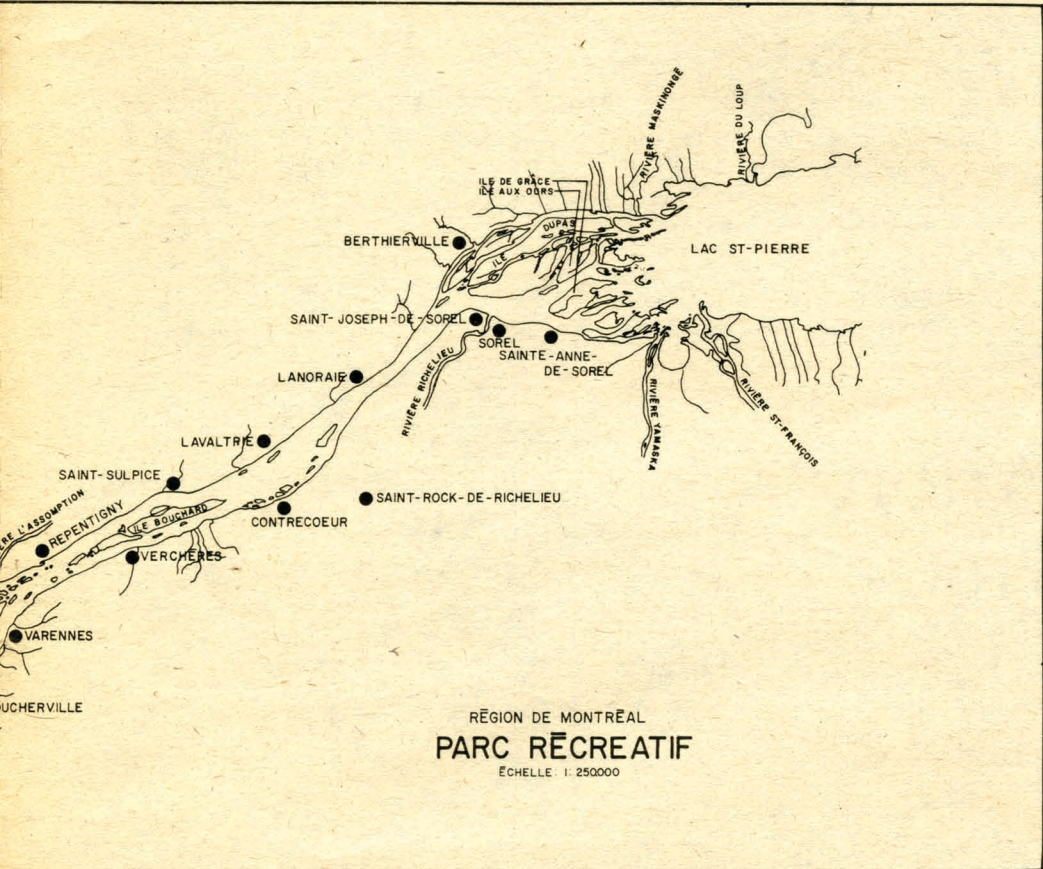
In a time of high unemployment, do you expect people will accept "un fleuve, un parc" if it threatens their economic situation?

We have to sell people the idea. Eventually it will change their way of life. They have to understand that we are heading for a dead end. If I were mayor, I would launch an education campaign to counteract the propaganda that's leading us the wrong way. Without a snowmobile, you look like an ass now. We have to preserve some natural green areas. After James Bay what do we do? More development, and when there is no more to be done, what do we do? They have that problem in Japan right now - too much industrialization and too many people. So they are starting to rethink their way of life. The thing is, it's harder to backtrack, so we should start now. "Un fleuve, un parc" is going to happen. I don't know exactly when, but it's going to have to happen. It's vital need for people to relieve the stress of the city. It would be easier to do than Expo '67 and it would cost

much less money. You have to have the will power, not manpower. There was a political decision to do Expo so they went ahead and did it. There has been no political decision to do "un fleuve, un parc"; Drapeau is too busy with the Olympics. You have to sell the idea. The politicians sold Expo to the people and they wanted it. It's the same thing here. It's easier to sell the idea to the people and let them sell it to the politicians. Once you have mass favourable opinion, the politicians will respond.

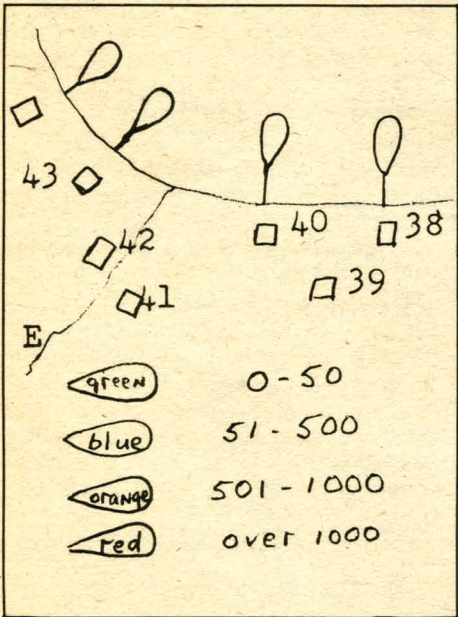
If everything goes the way you envision, when would un fleuve, un parc be realized?

I think I can get a "freeze" on the St. Lawrence within three years. Then there would be a couple of years to develop a detailed management plan which the federal and provincial governments would pay for. Once the municipalities install the necessary sewage systems, it doesn't take long for the bacterial pollution to clear itself naturally. Montreal is talking about primary treatment in ten years. "Un fleuve, un parc" provides some justification for them to do it sooner. If we want a park in the river, maybe we should have a better system in five years.



Is this the same strategy you have used on small lakes in the province?

Basically it's the same approach. On the lakes we did coliform tests and classified each shoreline cottage by the type of sewage installation. The results are indicated by a colour code on a large scale map, like this:



On the basis of this code, the lake is given an overall category. The map is posted in a public place so that once everyone can see who is causing the problem, there is a social pressure on the owners to repair their situation.

But in the city it's different. (Without the social cohesion of a small community) people are not directly affected. So you have to publicize the survey through the media. We started to do some social animation last October. A student had taken hundreds of pictures of the region during the summer; we chose 80 of the best photographs, and with the map held a press conference.

the land. Then it's just a matter of buying. We will ask the Quebec government to foot the bill. If the owners don't want to sell, we will have to expropriate. It is normal for governments to expropriate land for use as public parks. Dr. Goldbloom (Quebec Minister of the Environment) has already asked the City of Norgate to stop dumping sewage into the river, so at least there has been one official move by a cabinet minister.

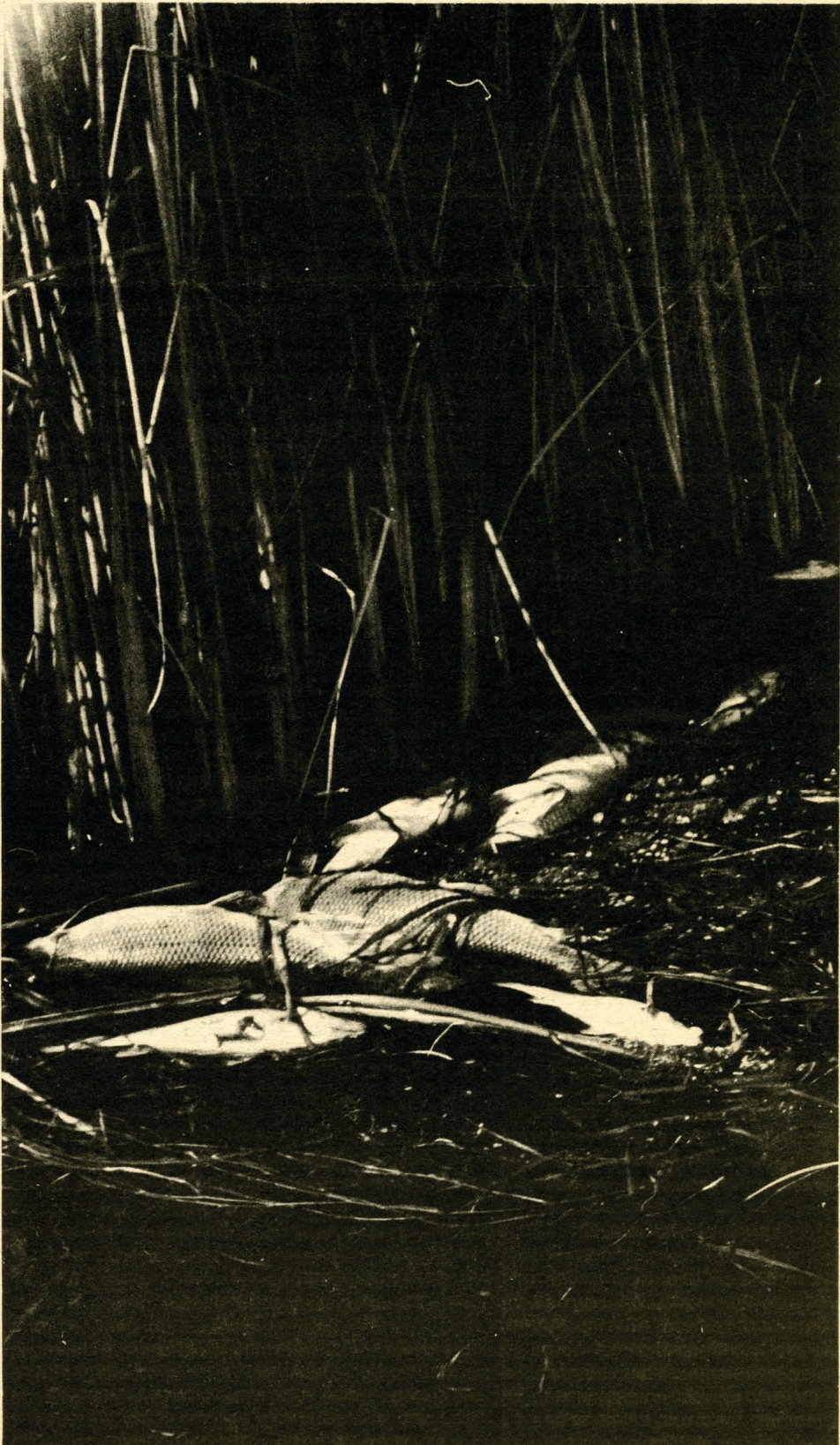
One of the things I want to do this summer is to start occupying the islands. We will contact community recreation leaders to organize camping trips. The students who are there testing could lead them on field walks, pointing out the plants and other natural features. It will be fun for the kids, and it's a positive way to occupy the islands.

How much will the project cost?

My estimate is about \$50 million, but it's hard to tell. One of the things we will do next summer is come up with a rational price. The type of land management we want to do is not very expensive; you just let nature grow. The big expense will be expropriation of the shoreline and islands, but that's no problem. I am not including the cost of sewage treatment in Montreal. They will have to do it anyway; it's only matter of time before public opinion forces them to do it.

The people who were not in favour of the project expressed concern for possible tax hikes and government-imposed admission charges which would restrict accessibility.

Most of the people now using the river are poor. We don't want to change the class of people. We want a public park that will permit these same people free access to recreation. There may be a



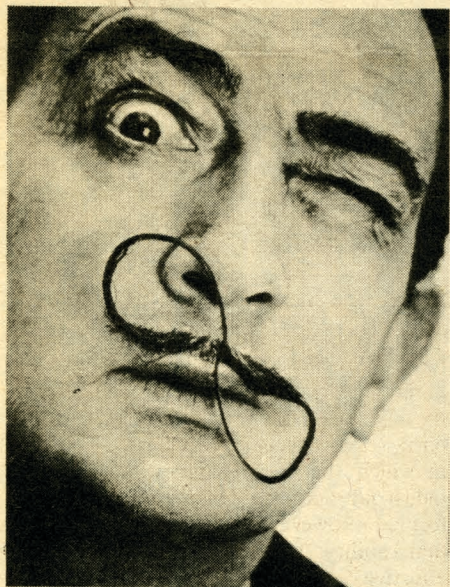




## Bread crumbs

SGWU's recent Canada Council pickings:

John Jackson, chairman of Sociology, gets a leave fellowship to work on a manus-



A gentleman never discusses figures.

cript on social conflict and its regulation between ethnic and racial groups.

George Marshall, assistant professor of Psychology, gets \$10,000 to study systems design science and the development of alternative living and learning systems.

## Germ warfare: heal thyself

A Sir George Williams University professor says that man is a walking virus-maker.

In a soon to be published article Sir George physicist Adolph Smith and Dean Kenyon of San Francisco State College propose that stress and damage to the body cause part of our cells to change into viruses.

Present ideas are that viral infections are caused only by invasions of germs from outside the body, that viruses invade the body when our resistance is low. The article says there is another way: self-infection. There are several diseases in which the usual explanation is strained - cold sores, for example, where there is recurrent infection at the same place yet where the presence of the virus cannot be detected between occurrences.

According to the new theory many viruses are the result of a rearrangement of parts of the cell caused by stress of various kinds. "We literally turn into viruses," says Dr. Smith, who thinks that since Pasteur, man has gone overboard in thinking all germs come from outside. "We have caught a virus and it is us," he says.

Smith and Kenyon claim that the origin of viruses in the body parallels the origin of viruses on our planet. They compare the process of viral origin to the cutting of a worm. If part of a worm is cut off, both parts very often survive; the authors suggest that the hereditary molecule of the cell is like a worm - when part of it becomes damaged it can independently produce living entities which act in a way harmful to the cell from which it came. External infection plays no part here; the virus was produced by internal damage to the cell hereditary material.

Implications of the new theory call for a re-examination of the relation between



Certainly, I personally indulge in atomic explosions.

THE GEORGIAN, JANUARY 18:

### Ad for Jewish Free University

Free Sex and Sexual Freedom, Jewish Positions and Where do we stand? -- Rabbi Hausman Thurs. 8 p.m. 2130 Bishop.

*You don't have to be Jewish to like 111.*

stress (any unpleasant factor experienced over a long period) and viral diseases.

Smith and Kenyon's findings will soon be published in *Enzymologia*, an international journal of microbiology. They were helped in their work by Nobel-prize laureate John Northrop and biologist Howard Temin.

ments available to discuss courses and prerequisites over coffee and doughnuts.

All will be brought to a close with a free celebration in the cafeteria featuring April Wine, Lights & Illusions and 15¢ beer.

See back page for intense excitement.



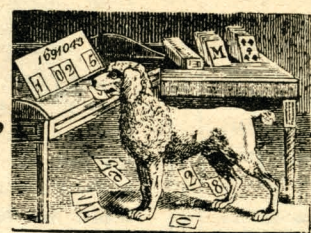
Providing the right honey for the right fly at the right time and place.

## Artbreak Hotel

Sir George and outside CEGEP'ers will have a chance to get the inside lowdown on much Hall Building activity at Arts Day Open House, Thursday, January 27 from 2:30 to 9 p.m.

All Arts departments are participating (some at their outside locations), showing the best they have to offer in the form of debates, displays and classes. Highlighted will be an orientation room (H-763) with honors/majors advisors, professors and students from all depart-

**MUNITO,**



**At HOME!**

### SIGNOR CASTELLI

Has the Honor most respectfully to inform the Nobility, Gentry, and the Public, that his justly celebrated

## DOG, MUNITO,

Having been ABROAD for some time to finish his Education, is now

### AT HOME,

### At No. 1, Leicester Square,

Where he exhibits, Daily, every Hour, from TWELVE till FIVE, His wonderful and surprising Knowledge, which last Year so greatly entertained all those who honoured his Performance with their presence.

MUNITO, besides his former accomplishments, will astonish the Public with his vast Knowledge in the SCIENCES of GEOGRAPHY, BOTANY, and NATURAL HISTORY, which he has acquired since he last had the honor of performing before them.

MUNITO is the same Dog who last Year obtained a MEDAL from the HUMANE SOCIETY, For having SAVED THE LIFE of a LADY in the most EXTRAORDINARY MANNER!

### Admittance, One Shilling.

Signor CASTELLI will attend with MUNITO in the Evening at the Houses of the Nobility and Gentry, as formerly.



# The life cycle of Paper Tigers

Keith Foster



After lunching at the Ritz some weeks ago, we happened on some friends who raved convincingly about the goings-on during the visit of the "Commission to Study the Rationalization of University Research" to the campus. Convinced, though burdened with a dizzying quotient of Cointreau and cigar, we ambled our way over to see the excitement. We found this excerpt of Keith Foster's submission to be of interest and some amusement:

If the policy for research followed by the government may be criticized, then so may the policy adopted by the University administrators and so may the attitudes taken by the University personnel. The number of University technological projects that can be proven to be of direct commercial value are few and far between - the work on the design of a scanning electron microscope at Cambridge was a good one, but how many others can one recall? This has not prevented a vast increase in research funding to the academic institutions. In my own experience of British Universities, the process by which this has developed is broadly as follows:

a) Technological departments are not given sufficient money to continually re-equip laboratories at the rate at which new products are appearing in the market; this applies particularly to instrumentation. Nor are they sufficiently financially supported to be able to allow the undergraduates to do realistic project work.

b) Research grants, however, can be relied upon to provide new equipment which can be used for undergraduate project work, and which may ultimately be assigned to general teaching. Therefore, University staff are encouraged to bring in research grants or contracts. In the end, promotion is based on one's ability to do this (in spite of protestations denying such a policy).

c) Success in obtaining grants or contracts from government funds depends very much on the weight (literally) of published work, either from the individual, or from a department. This policy has encouraged the latent tendency of academics to write mathematical papers, often supported by experiments so limited in scope that analysis and experiment are bound to agree. Because the papers are so mathematical, only other academics can referee them, so that the first closed circle is formed. In addition, because of the need to assess the value of such erudite research, academics eventually come to dominate the committees of the grant awarding bodies, and the second closed circle is created.

d) Finally, this trend has been followed to its logical conclusion. To cope with the volume of publication in certain popular subjects, conferences are regularly held. To be sure of success, the organizers lower the standards required for papers and hold the conferences in interesting places. In order to obtain travel funds, lots of people write papers which are accepted.

These published papers are the bases of further grant applications, and a new self-generating industry is born. In England, two such regular meetings - one a Fluidics Conference, and the other a Machine Tool Design and Research Conference are well attended, and in both cases the industry has declined, whereas the paper production has boomed.

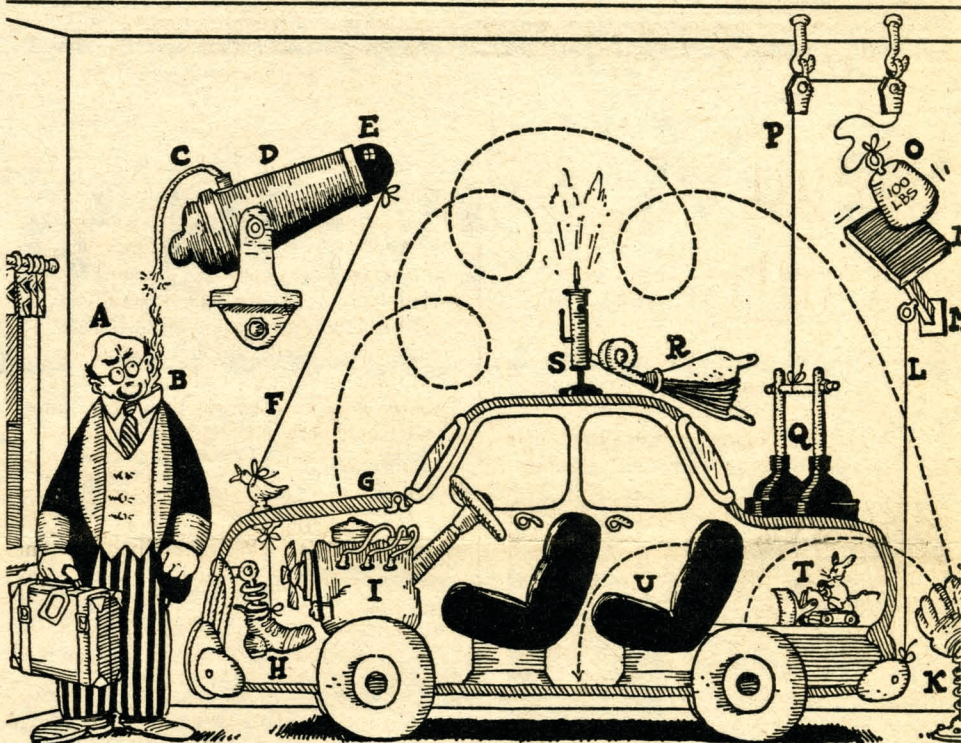
The publicity provided by conferences promotes further research activity because it is apparent that the area of study is an important one. University teachers are not usually by nature innovative so that the new research state is an extension of earlier published work. For example, it is observed that a parameter had been neglected from an earlier

analysis. By including it, the equations became more complicated, so that a digital computer is necessary, and by this means a lengthy investigation is started. The effect of this is two-fold. Firstly, the analysis become difficult to follow and places the University man at a psychological advantage to the extent that it is possible to believe that the use of mathematical analysis is the key to successful projects, or alternatively, to

only people suitable are young men who have just obtained, or are about to obtain, a doctorate in a related subject. Their experience otherwise is minimal.

The culmination of this activity may be the accumulation of a large number of papers and laboratory equipment. It is now possible for the laboratory to bid to become a "Centre of Excellence". These centres are to the Universities what

## How To Make A Sedan Bigger Inside Without Making It Bigger Outside



believe that the lack of an application of analysis is the reason for failure of earlier unsuccessful designs or patents.

Secondly, and worse in its effect, is the ultimate discovery that the effect of this additionally included parameter is small. It turns out that existing laboratory equipment is inadequate to measure the effect, so that more expensive instruments, or more sophisticated techniques are required. Further staff are also required and the

the prestigious, large scale government-funded projects, so castigated in the Lamontagne report, were to Industry in the sixties. It is possible to have an internationally recognized centre in an area in which the country in question has no industrial activity. Once they have been formed, however, a considerable intellectual ability is required to provide an effective critique of them.

Keith Foster is visiting professor of Engineering.

Continued from page 1

complete for maybe 50 to 100 miles. Now with the predatory fish, the trout and salmon will be gone.

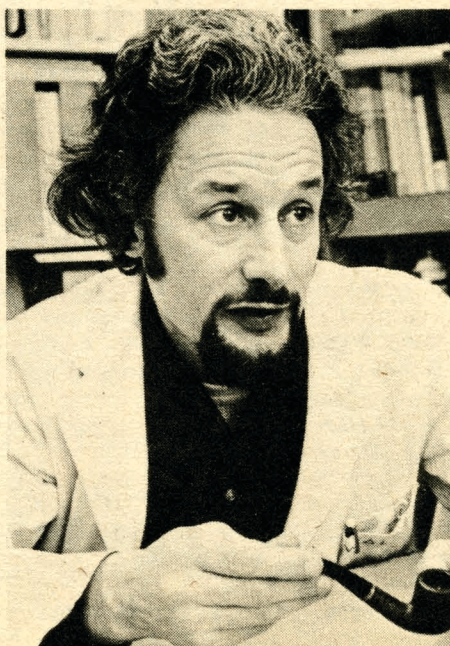
This river with its good fishing was extremely important to the Indian population. Now the river is polluted by physical and possibly chemical pollutants and can't be used by anyone.

The same thing can well happen in the James Bay area. The government says that it is studying the pollution problem and is working on a policy to avoid pollution. This will be interesting to see.

I am working now on vegetation mapping

of the St. Scholastique area, particularly the dynamics of vegetation. We are then able to take these maps and integrate them with soil maps and maps on pollution (indicating existing or potential dangers) and in addition social maps which indicate population densities as well as types of farming going on in the region. After we put everything together, we can extract a general map which provides the answers we need to decide on what modifications can or can't be made.

Not all things about the St. Scholastique project are negative. For example there are possibilities for better agriculturalization and use of the lands. We meet to-



gether with the farmers of the region. One interesting point is the use of the woodlands, which from the farmers' point of view are not very useful and only a small secondary input to his budget. But the government can help him in developing recreational grounds, for maple sugaring in the spring, or with proper management developing the lands as organized woodlots for industrial use.

This is an interesting point, for much of our wood which we use for furniture manufacture comes from the United States. And we have very good materials right here. But we need proper management.



*You may not remember what a cow looks like but Woodstock keeps coming home. Like three times in H-110 Friday.*



# SGWU THIS WEEK

*Photos and notices of coming events should be in by Wednesday noon for Thursday publication (basement, 2145 Mackay) or call Maryse Perraud, 879-2823.*

## friday 21

WEISSMAN GALLERY & GALLERY 1: Sculpture and paintings by Henry Warton Jones through January 28.  
SCIENCE STUDENT ASSOCIATION: "Woodstock" at 3, 6 and 9:30 p.m. in H-110 (99¢).  
ENGINEERING FACULTY COUNCIL: Meeting at 2:30 p.m. in H-769.

## saturday 22

HOCKEY: Sherbrooke vs Sir George at Sherbrooke, 2 p.m.  
HILLEL: Folk rock (?) group, felaffel and coffee; admission 75¢ at 2130 Bishop.

## monday 24

UNIVERSITY COUNCIL ON STUDENT LIFE: Meeting at 5 p.m. in H-769.  
HILLEL: Steven Schwarzschild, professor of philosophy at U. of Washington at St. Louis, speaks on 'Jewish Basis for Radical Change' at noon, 2130 Bishop.  
STUDENT UNION: New Montreal poetry featuring Bruce Covo, Michael Godfrey, Louise Marinoff and Pat Caponi at Karma Coffee House, 1476 Crescent, 8:30 p.m.

## wednesday 26

ENGLISH: Students' "Wednesday Workshop" with scenes from "Anthony and Cleopatra" and "Twelfth Night" at 1 p.m. in H-635.  
POLITICAL SCIENCE SOCIETY: Guest speaker James Eayrs on "U.S. - Canadian Relations" 4 - 6 p.m. in H-520.  
CUMA: Social smoker 8 p.m. at the students Union with 3 beer for \$1; tickets at room 025-5, Norris Building.

## thursday 27

GALLERY II: Jonathan Fisher's photos of Mount Royal followed by graphic design students show until Feb. 12.  
CONSERVATORY OF CINEMATOGRAPHIC ART: "Bats in the Belfry" (Misa Radivojivic, 1971) (English subtitles) with Dragan Nikolic at 7 p.m.; "The Cyclists" (Purisa Djordjevic, 1970) (English subtitles) with Milena Dravic and Ljubisa Samardzic at 9 p.m. in H-110; 50¢ students, 75¢ non-students (each show).  
ARTS DAY: Full house educational extravaganza 2 - 9:30 p.m. (see below).  
POLITICAL SCIENCE SOCIETY: Guest speaker Robert Lemieux, 4 - 6 p.m. in H-937.

## friday 28

ENGINEERING SOCIETY: Guest speaker Fred Knelman on "Technology in War and Peace" at 2:10 p.m. in H-620.  
FACULTY CLUB: Robert Burns night with speakers Anne Stokes, Robin Burns, Gordon Cadenhead, Bernard Queenan; dinner at 7 p.m. (reservation through Cissie, 879-2842).  
UNIVERSITY COUNCIL: Meeting at 2 p.m. in H-769.

## ISSUES & EVENTS

Published Thursdays by the Information Office of Sir George Williams University, Montreal 107. The office is located in the basement, 2145 Mackay Street (879-4136). Litho by Journal Offset, Ville St. Laurent. Submissions are welcome.  
Joel McCormick, editor, Ginny Jones, Maryse Perraud, Michael Sheldon, Malcolm Stone.

## Arts Day - Jan. 27

**Applied Social Science** - display in H-1135; informal discussions and films at 2085 Bishop, 4 - 5:30 p.m.

**Cinema** - demonstration of editing and animation studios at 1435 Drummond from 2:30 to 6 p.m.; student films 3:30 to 4:30 p.m. in H-110; NFB and Chaplin shorts 2:30 - 3:30, 4:30 - 6 p.m. in H-110.

**Classics, Modern Languages, Linguistics** - Russian and German films in H-507; discussion on "The Tower of Babel" (3 - 4 p.m. in H-511).

**Economics** - panel discussion on Canadian-American relations (2:30 - 3:30 p.m. in H-620); talk on the use of computers in economic research (4 - 4:30 p.m. in H-611).

**Education** - film - "Cognitive Process"

on teaching the handicapped (3 p.m. in H-413); informal discussions and displays in H-413.

**English** - counselling (2:30 - 3 p.m. in profs' offices); Great Debate: "Sir George, the pièce de résistance or yesterday's hash, reheated" (3:05 - 4 p.m. in H-539-1); mini-lectures (4:05 - 5 p.m. in H-539-1).

**Fine Arts** - studio classes in visual arts orientation (3 - 5:45 p.m. in H-505, 507), sculpture (12 - 6 p.m. in H-551/4) and graphics (12 - 6 p.m. in H-549/1-3); in the galleries (mezzanine) sculpture and paintings of lecturer Henry Warton Jones, and Jonathan Fisher's photographs of Mount Royal.

**French** - lectures in H-520 from 3 to 4:30 p.m.; sample language lab TV exam 4:30 - 5 p.m. in H-529.

**Geography** - map and instrument display, tours of 2080 Mackay at 11 a.m., 3 and 6 p.m.

**History** - discussion of revolution in Quebec (4 - 5 p.m. in H-420); displays and course information on Asian and African history (H-460), American and Canadian (H-427), European (H-429).

**Humanities of Science** - Science film theatre (from Chaplin to McLuhan to ecology) at 2010 Mackay from 2:30 to 6 p.m.; "Food or Famine", student production for the biology and social change course, on closed-circuit TV 3 - 4:30 p.m.; ongoing TV production in H-0029 from 2 to 6 p.m.

**Mathematics** - panel discussion on math and the arts student's future (2:30 - 3:30 p.m. in H-420) followed by the film "Donald Duck in Math-magics" (3:30 - 4 p.m.).

**Music** - electronic music class demonstrations (H-513); display of Asian instruments (some of my best friends are Burmese harps, kotos, etc.) outside H-620; student performances at 2140 Bishop.

**Philosophy** - results of CEGEP student contest 3:30 - 5 p.m. in H-620, textbook display in H-632-1.

**Political Science** - guest speaker Robert Lemieux 4:30 - 6 p.m. in H-635; panel discussing Drapeau and Montreal politics (3:30 - 5 p.m. in H-607); films (2:30 - 3:30 p.m. in H-607).

**Psychology** - student and faculty research projects (sexual behaviour in rats, bar pressing for brain stimulation, etc.) 2:30 - 6 p.m. in H-1137; *Psychology Today* film series (2:30 - 6 p.m. in H-1135).

**Religion** - "Consciousness Expansion: Mysticism or Madness?" (5 - 6 p.m. in H-620).

**Sociology** - faculty-student informal discussions all day at 2015 Drummond.

**Theatre** - two award-winning student productions at 3 p.m.; theatre tours 2:30 and 5:30 p.m.; set and costume display and discussion in H-629.